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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,009	01/07/2002	James E. Doherty	ITWO:0009	2596

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EXAMINER
KERNS, KEVIN P

ART UNIT	PAPER NUMBER
1725	3

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/041,009	DOHERTY, JAMES E.	
	Examiner	Art Unit	
	Kevin P. Kerns	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☒ Claim(s) *23 and 32-36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to because "96" should be changed to "94" in Figure 7 to obtain correct labeling of the hex nuts. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: on page 9, 13th line, "first end 58" should be changed to "second end 60". On page 12, 11th line, "43" should be changed to "42". Appropriate correction is required.

Claim Objections

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 33-37 (in the preliminary amendment of April 22, 2002) have been renumbered 32-36.

4. Claims 23 and 32 are objected to because of the following informalities: in claim 23, 2nd line, "inches" should be added after "4.2". In claim 32, 10th line, "handlepieces" should be changed to "handle pieces". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 19, 20, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 19, it is unclear what reference point(s) determine the relationship "the handle is curved to less than 32 degrees".

With regard to claim 20, it is unclear how the perimeter length of the gripping portion can be kept constant at 4.4 inches when the handle has a gradually increasing cross-sectional area (see claim 16 and Figures 2-8). The "gripping portion" extends over a substantial range (several inches) of the handle length, such that the 4.4-inch value would not be kept constant, but is perhaps only that value at the narrowest portion in the central region of the handle gripping portion.

With regard to claim 33, it is unclear what is meant by "the second portion is vertical relative to the first position". This limitation implies that the first position is arranged horizontally, which does not appear to be the intention of the claim. Should "vertical" be changed to "perpendicular"?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 5, 6, 8, 16-18, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Stuart et al. (US 5,491,321).

Stuart et al. disclose a welding gun assembly for MIG welding, in which the assembly includes welding power source 12, shielding gas supply (16,26), controller 30, wire feed supply 52, handle portion 56, and trigger 34, in which the (hand-held) portion of the handle includes portions with increasing cross-section toward the upper and lower ends of the handle (below trigger 34) with respect to the central portion of the (hand-held) handle (abstract; column 1, lines 17-25; column 3, lines 16-26; column 6, lines 26-67; column 7, lines 1-67; column 8, lines 1-60; and Figures 1, 2, and 9). In one embodiment, the handle 188 (in the gripping portion) has an oval (teardrop) shape (column 16, lines 11-47; column 18, lines 28-41; and Figures 20-22 and 25).

9. Claims 16 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Zigliotto (US 5,965,045).

Zigliotto discloses a handle for a welding torch, in which the handle has first and second ends with increasing cross-section toward the upper and lower ends of the handle, and a gripping portion having the narrower cross-section adjacent the trigger 3 (abstract; column 1, lines 57-63; and Figure 1).

10. Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Dimock et al. (US 5,571,427).

Dimock et al. disclose a torch head and cable assembly for a welding device, in which a handle 16 contains (opposite) first end 76 and second end 78 (having a D-shaped cross section, which is generally oval or teardrop shaped) for receiving welding cable set 18 of cable assembly 10, and further including a power supply 34 (abstract; column 2, lines 65-67; column 3, lines 1-24; column 4, lines 36-67; column 5, lines 1-66; and Figures 1 and 6-8).

11. Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Erickson et al. (US 4,250,366).

Erickson et al. disclose a trigger assembly for an arc welding gun, in which a handle 24 is formed from a rugged insulating plastic in two halves (first and second receiving portions located on opposite handle piece ends and adapted to capture a welding cable connector) which are reversibly fastened together and contain trigger assembly 12 (abstract; column 2, lines 25-35; and Figures 1-4). The arc welding gun

also includes a gooseneck 50 (neck attached to the handle assembly) to direct a flow of shielding gas to gas nozzle 64 (column 2, lines 42-57; and Figure 1).

12. Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Colman (US 4,403,136).

Colman discloses an arc welding (MIG) gun with a handle assembly, in which the assembly includes a wire supply cable 12, gas conduit 30, trigger 42, and the handle assembly includes one-piece left housing member 14 and a two-piece right housing portion (handle pieces), and are connected by screws 20, in which these handle piece members capture and secure a welding cable connector and are capable of receiving welding cable from both directions (abstract; column 1, lines 4-11; column 2, lines 57-68; column 3, lines 1-6 and 39-63; and Figure 1).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 1, 2, 4, 9, 11, 15, 30, 31, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matasovic (US 3,689,733).

Matasovic discloses an arc welding gun (MIG) with a switch assembly, in which the gun includes a straight handle 13 with first and second cable receiving (end) portions, trigger/switch 15, rotatable gooseneck (26,35), wire-carrying liner 24, power cable 37 coupled to a power source, and gas hose 34 (abstract; and Figures 1-3). The handle 13 is attached to gooseneck by band 48 of clamping means 14 for securing the assembly, and for enabling rotation of head portion 12 relative to straight handle portion 13, such that the operator would be able to hold the handle in different positions (column 2, lines 42-49; column 4, lines 55-65; and Figure 1). One of ordinary skill in the art would have recognized that handle tube 47, being clamped with clamping means 14, is readily rotatable and removable, as handle tube 47 is a symmetrical structure that would be reversed (along with trigger/switch 15 in any quadrant) at its ends to enable trigger positioning selectively for squeezing from fingers, thumb, or palm, as desired by the operator, for the purpose of enabling flexibility of the operator's grip, resulting in less grip fatigue (column 4, lines 55-66).

16. Claims 1, 2, 4, 9-11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colman (US 4,403,136).

Colman discloses the elements of claims 24 and 25 above. Although not specifically disclosed, the handle portions of Colman are capable of receiving welding cable from both directions, as the (gripping) handle portion is a symmetrical structure that would readily be reversed in end-to-end orientation, while maintaining finger grip portions with a thumb rest, for the purpose of facilitating operation (improved control) by both left and right handed operators, without incurring substantial disassembly (abstract; column 1, lines 4-11 and 65-68; column 2, lines 1-32 and 57-68; column 3, lines 1-6 and 39-63; and Figure 1).

17. Claims 1, 9, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimock et al. (US 5,571,427).

Dimock et al. disclose the elements of claims 24 and 25 above. Although not specifically disclosed, the (gripping) handle portion is a symmetrical structure that would readily be reversed in end-to-end orientation, while maintaining a generally similar handle shape with respect to hand gripping arrangements, for the purpose of providing a secure, friction fit while minimizing handle rotation (abstract; column 2, lines 21-30 and 65-67; column 3, lines 1-24; column 4, lines 36-67; column 5, lines 1-66; and Figures 1 and 6-8).

18. Claims 27-29, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson et al. (US 4,250,366)

Erickson et al. disclose the elements of claims 24 and 25 above. Although not specifically disclosed, the (reversible) assembly of the two halves (first and second receiving portions located on opposite handle piece ends) would necessarily include the trigger assembly either attached to one of the halves or totally separate from both halves, such that, in both cases, handle portions would be adapted to receive a trigger (Figures1-4). One of ordinary skill in the art would have recognized that either one of the two possible arrangements would frequently undergo cycles of disassembly and reassembly due to repair and/or replacement of the internal parts of the handle assembly, and such a handle assembly comprised of multiple pieces is advantageous for such repair/replacement operations.

19. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Matasovic (US 3,689,733), Colman (US 4,403,136), or Dimock et al. (US 5,571,427), in view of Stuart et al. (US 5,491,321).

Matasovic, Colman, and Dimock et al. individually disclose and/or suggest the limitations of claims 1 and 9 above. Neither Matasovic, Colman, nor Dimock et al. discloses a handle with a gripping portion that increases in cross-sectional area in each direction towards the first and second ends.

However, Stuart et al. disclose a welding gun assembly for MIG welding, in which the assembly includes welding power source 12, shielding gas supply 16,26, controller 30, wire feed supply 52, handle portion 56, and trigger 34, in which the (hand-held) portion of the handle includes portions with increasing cross-section toward the upper

and lower ends of the handle (below trigger 34) with respect to the central portion of the (hand-held) handle (abstract; column 1, lines 17-25; column 3, lines 16-26; column 6, lines 26-67; column 7, lines 1-67; column 8, lines 1-60; and Figures 1, 2, and 9). In one embodiment, the handle 188 (in the gripping portion) has an oval (teardrop) shape (column 16, lines 11-47; column 18, lines 28-41; and Figures 20-22 and 25). The handle with an outwardly tapering cross-section is advantageous for providing the operator with an improved ergonomic design (column 3, lines 16-26).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify any of the handle assemblies disclosed/suggested by either Matasovic, Colman, or Dimock et al., by using the handle with an outwardly tapering cross-section, as disclosed by Stuart et al., in order to provide the operator with an improved ergonomic design (Stuart et al.; column 3, lines 16-26).

20. Claims 7 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stuart et al. (US 5,491,321) in view of either Matasovic (US 3,689,733), Colman (US 4,403,136), or Dimock et al. (US 5,571,427).

Stuart et al. disclose the features of claim 5 above. Stuart et al. do not specifically disclose that each end of the welding handle is operable to receive welding cable, as well as the dimensions of the handle and trigger.

However, Matasovic, Colman, and Dimock et al. individually disclose and/or suggest that each end of the welding handle is operable to receive welding cable in the following relationships:

Matasovic discloses an arc welding gun (MIG) with a switch assembly, in which the gun includes a straight handle 13 with first and second cable receiving (end) portions, trigger/switch 15, rotatable gooseneck (26,35), wire-carrying liner 24, power cable 37 coupled to a power source, and gas hose 34 (abstract; and Figures 1-3). The handle 13 is attached to gooseneck by band 48 of clamping means 14 for securing the assembly, and for enabling rotation of head portion 12 relative to straight handle portion 13, such that the operator would be able to hold the handle in different positions (column 2, lines 42-49; column 4, lines 55-65; and Figure 1). One of ordinary skill in the art would have recognized that handle tube 47, being clamped with clamping means 14, is readily rotatable and removable, as tube 47 is a symmetrical structure that would be reversed (along with trigger/switch 15 in any quadrant) at its ends to enable trigger positioning selectively for squeezing from fingers, thumb, or palm, as desired by the operator, for the purpose of enabling flexibility of the operator's grip, resulting in less grip fatigue (column 4, lines 55-66). With regard to the dimensions of the handle and trigger, one of ordinary skill in the art would have recognized that consideration would have been given to the ergonomic aspects of the welding operation to accommodate a welder's hand, for the purpose of increasing welding operation time with reduced grip fatigue.

Colman discloses the elements of claims 24 and 25 above. Although not specifically disclosed, the handle portions of Colman are capable of receiving welding cable from both directions, as the (gripping) handle portion is a symmetrical structure that would readily be reversed in end-to-end orientation, while maintaining finger grip portions with a thumb rest, for the purpose of facilitating operation (improved control) by both left and right handed operators, without incurring substantial disassembly (abstract; column 1, lines 4-11 and 65-68; column 2, lines 1-32 and 57-68; column 3, lines 1-6 and 39-63; and Figure 1). With regard to the dimensions of the handle and trigger, one of ordinary skill in the art would have recognized that consideration would have been given to the ergonomic aspects of the welding operation to accommodate a welder's hand, for the purpose of increasing welding operation time with reduced grip fatigue.

Dimock et al. disclose the elements of claims 24 and 25 above. Although not specifically disclosed, the (gripping) handle portion is a symmetrical structure that would readily be reversed in end-to-end orientation, while maintaining a generally similar handle shape with respect to hand gripping arrangements, for the purpose of providing a secure, friction fit while minimizing handle rotation (abstract; column 2, lines 21-30 and 65-67; column 3, lines 1-24; column 4, lines 36-67; column 5, lines 1-66; and Figures 1 and 6-8). With regard to the dimensions of the handle and trigger, one of ordinary skill in the art would have recognized that consideration would have been given to the ergonomic aspects of the welding operation to accommodate a welder's hand, for the purpose of increasing welding operation time with reduced grip fatigue.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the welding gun assembly of Stuart et al. with any of the handle arrangements of either Matasovic, Colman, or Dimock et al., in order to provide trigger positioning selectively for squeezing from fingers, thumb, or palm, as desired by the operator, to enable flexibility of the operator's grip, resulting in less grip fatigue (Matasovic; column 4, lines 55-66); to facilitate operation (improved control) by both left and right handed operators, without incurring substantial disassembly (Colman; abstract; column 1, lines 4-11 and 65-68; column 2, lines 1-32 and 57-68; column 3, lines 1-6 and 39-63; and Figure 1); and to provide a secure, friction fit while minimizing handle rotation (Dimock et al.; abstract; column 2, lines 21-30 and 65-67; column 3, lines 1-24; column 4, lines 36-67; column 5, lines 1-66; and Figures 1 and 6-8).

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Kensrue, Ingwersen et al., Altekruse, and Rehrig references are also cited to show related art.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for

the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK
kpk
March 20, 2003

M. ALEXANDRA ELVE
PRIMARY EXAMINER